

REMARKS/ARGUMENTS

The Examiner is thanked for indication of allowed claims and allowable claims and for his attention to this application. However, as to the rejected claims, Applicant respectfully traverses the rejections. The basis for this traversal are discussed below.

The Status of the Claims.

Claims 1-27 are pending, with claim 14-17 and 25-27 indicated allowed.

The Invention

The present invention, in various embodiments, involves a data transfer management system and/or method for scheduling transmission of data units (or cells) to a number of destinations (such as loop port terminations). In specific embodiments, the present invention, rather than scheduling data transfer to destinations, schedules the polling of destinations to determine destination availability to accept data and then emits data to destinations with successful polls.

In specific embodiments, the invention can use weighted interleaved round robin (WIRR) scheduling in conjunction with a weight spreader function to schedule polling. In a further aspect, polling bandwidth is minimized by only polling ports that have data queued and have a high probability of being able to accept data. In various specific embodiments, various aspects according to the invention provide effective scheduling for multiple destinations.

35 U.S.C. §102(e)

Claims 1-6, 8, 10 and 11 were rejected under 35 U.S.C. §102(e) as allegedly anticipated by Pillar et al (6,501,762). Of these, claim 1 is independent.

Pillar et al (6,501,762)

Pillar discusses scheduling of data from multiple incoming queues to an outgoing datapath (or destination), which it describes as "...a method of scheduling a plurality of data flows

within a class of service for digital traffic over a limited bandwidth outgoing datapath.” (Col. 3, lines 24-26). Thus, the scheduling in Pillar is directed to scheduling the sources of data only, in order to determine which of multiple data sources can transmit to an outgoing datapath.

The present invention, by contrast, is directed to distributing a data source to two or more (e.g., up to 2k) lower bandwidth outgoing destinations. In the present invention, polling of the multiple lower bandwidth destinations is scheduled, rather than the data flow.

Thus, with regard to claim 1, Pillar does not suggest scheduling “data transmission from a source to a plurality of destinations” or “scheduling polling to destinations.” Pillar instead discusses scheduling multiple sources to a single destination by scheduling the dataflow from those multiple sources. Furthermore, Pillar does not discuss scheduling polling at all. Pillar references “polls” or “polling” just four times, and only in the background of the invention (See Col. 2, lines 16, 26, 48, 49) and does not indicate or suggest that the polling is scheduled. Therefore, Pillar does not anticipate independent claim 1, as Pillar does not suggest the elements quoted above.

Likewise, with regard to independent claim 18, Pillar does not disclose or suggest “a scheduler that reads polling parameters corresponding to port ids and selects ports for polling based on said parameters;”

Likewise, with regard to independent claim 28, Pillar does not disclose or suggest “a loop port scheduler that scans sequencing parameters, said parameters indicating loop ports that are eligible for polling and identifies port ids of ports eligible for polling;”

Based on the above remarks, Applicant believes that the rejection of independent claim 1, and therefore all rejections under 35 U. S. C. 102(e) are overcome.

As a further response to the Examiner’s grounds for rejection, Applicants note that the Examiner appears to be equating weighted fair queuing of data flows as discussed in Pillar to the weighted scheduling of polling of the claims at issue. Weighted fair queuing is, in Pillar and generally in the art, a method of scheduling the order in which data is transmitted from

multiple queues to a destination. Weighted scheduling of polling as used in some aspects of the present invention is a novel method of scheduling polling events to determine availability of outgoing multiple queues in an external device such that the bandwidth required for poll events is minimized. Applicants have examined Pillar col. 3, lines 27-40, cited by the Examiner, and have found no mention of scheduling of polling as stated by the Examiner.

With respect to claim 8, the claim is allowable because the base claim 1 is not anticipated. Furthermore, the grouping of cells in each source connection based on relative weights from multiple sources does not anticipate or suggest the claim 8 limitation "assigning each destination a sequence value, with destination of the same weights being assigned to a roughly evenly distributed sequence values so that said sequence values evenly distribute polling of destinations of the same relative weight."

35 U.S.C. §103(a)

Claims 12, 13 and 28 stand rejected as obvious over Pillar in light of Miyoshi. Of these, claim 28 is independent.

In his remarks, the Examiner states: "As already discussed above, Pillar discloses scheduler that reads polling parameters." Applicants respectfully disagree. Nowhere does Pillar discuss polling parameters or a scheduler that reads any polling information. Miyoshi also does not discuss polling anywhere and does not discuss scheduling of polling. The scheduler in Miyoshi schedules output of cells by an output manager. (See Col. 3, lines 52-54, "The generation of RM cells in (1) is performed by an RM cell generator 13, and the output from the generator is managed by an output manager 19 within a scheduler 10.") Because the asserted combination does not even suggest the elements of independent claims 1 or 28, these rejections should be withdrawn.

Claims 18 and 22-24 stand rejected as obvious over Pillar in view of Shimony. Of these, claim 18 is independent. As discussed above, Pillar does not suggest "a scheduler that reads polling parameters corresponding to port ids and selects ports for polling" from claim 18. As this element is also not found in Shimony, the rejection should be withdrawn.

Furthermore, the sequence number referred to in Shimony is part of the ATM protocol definition and is used to keep track of cell ordering on a transmission medium. The subject claims discuss using a sequence number to control the order in which destination polling is achieved. This is not suggested by the asserted combination.

CONCLUSION

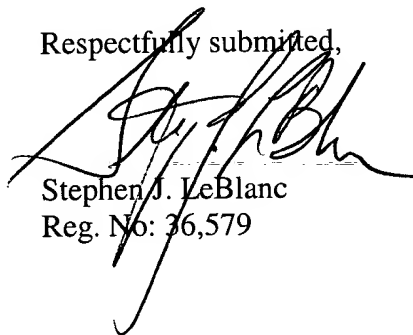
In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Request for Telephone Interview

If any of the pending claims are deemed not to be in condition for allowance after consideration of this Response, a telephone interview with the Examiner is hereby requested. Please telephone the undersigned at (510) 337-7871 to schedule an interview.

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Respectfully submitted,



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Attachments:

- 1) A transmittal sheet;
- 2) A receipt indication postcard;
- 3) A request for extension of time.